

FIG. 1 (Prior Art)

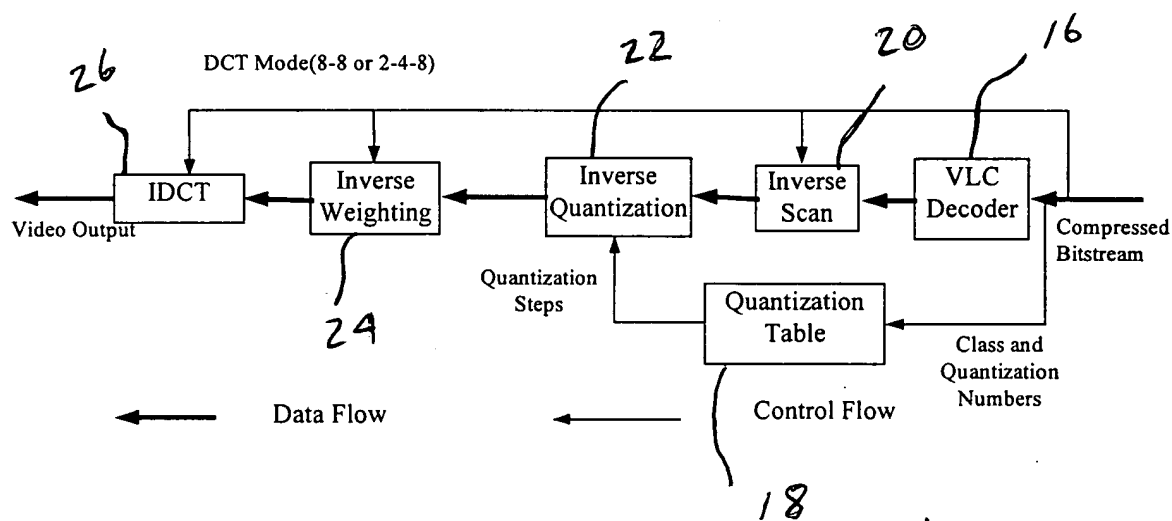
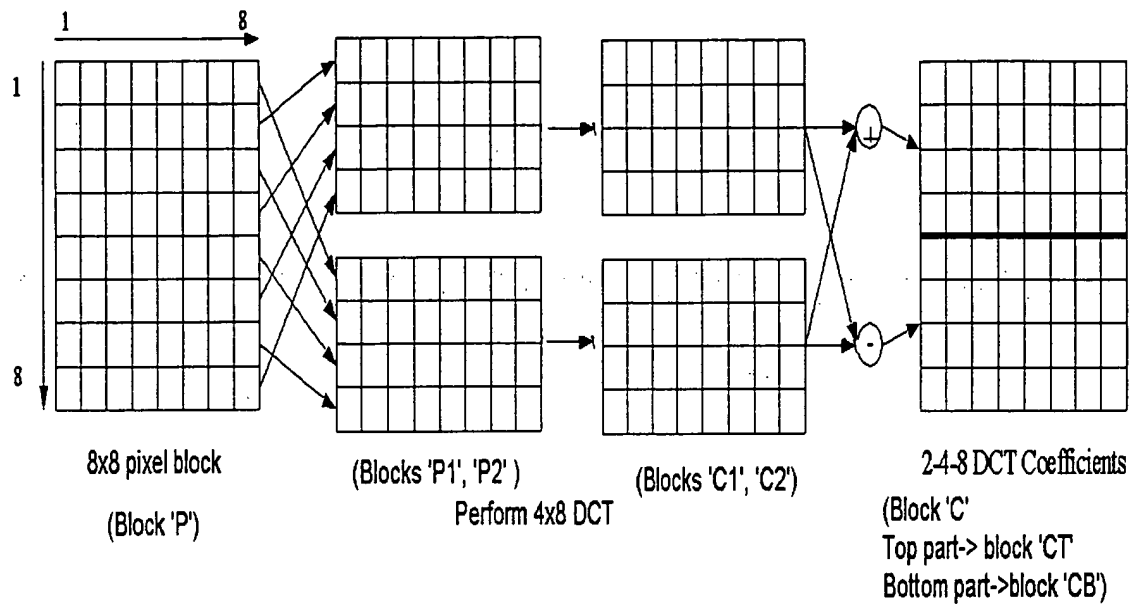


FIG. 1A (Prior Art)

0907504.1.00300



**FIG. 2**

0907501-400300

8-8 DCT

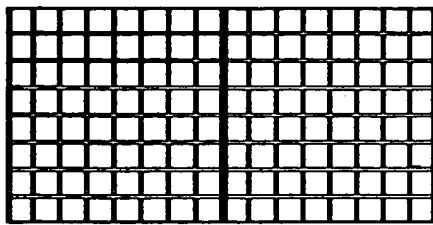
DC	0	0	1	1	1	2	2
0	0	1	1	1	2	2	2
0	1	1	1	2	2	2	3
1	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	2	3	3	3	3
2	2	2	3	3	3	3	3
2	2	3	3	3	3	3	3

2-4-8 DCT

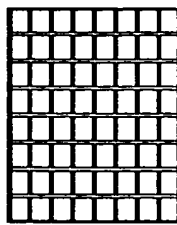
DC	0	1	1	1	2	2	3
0	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	2	3	3	3	3
0	0	1	1	2	2	2	3
0	1	1	2	2	2	3	3
1	1	2	2	2	3	3	3
1	2	2	3	3	3	3	3

Fig. 3

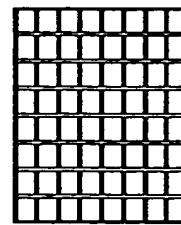
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Y DCT Blocks



Cr DCT Block



Cb DCT Block

Fig. 4

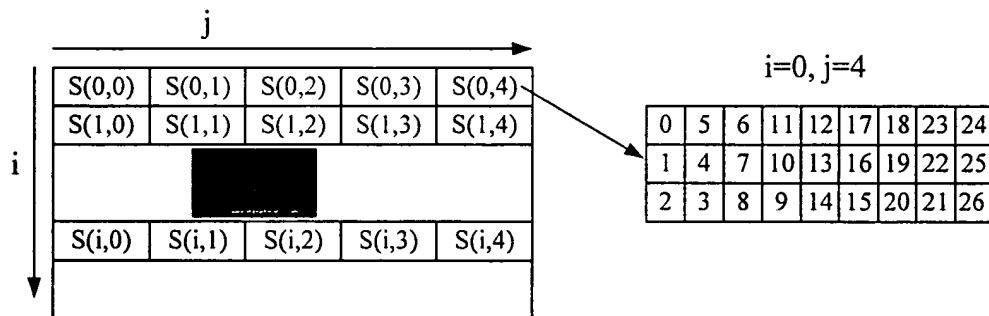
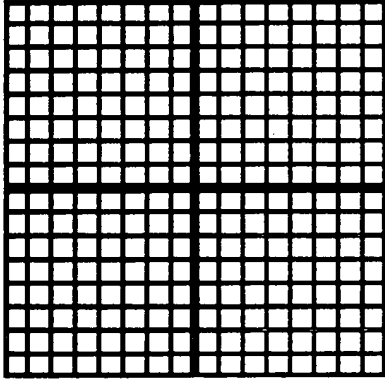
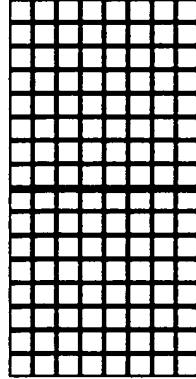


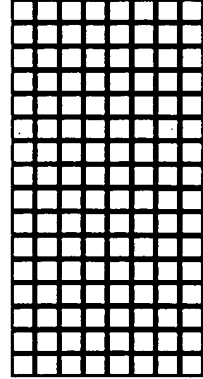
Fig. 4A



4 8x8 Y blocks



2 8x8 Cb blocks



2 8x8 Cr blocks

Fig. 5

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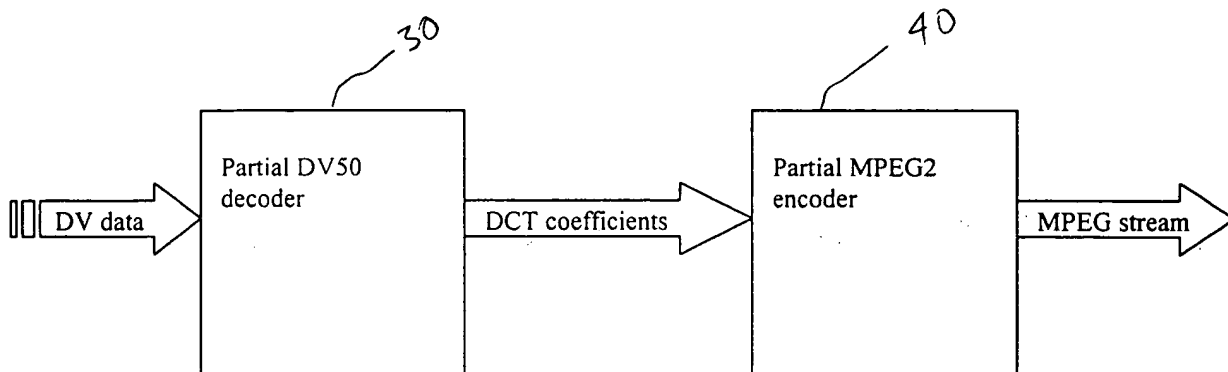
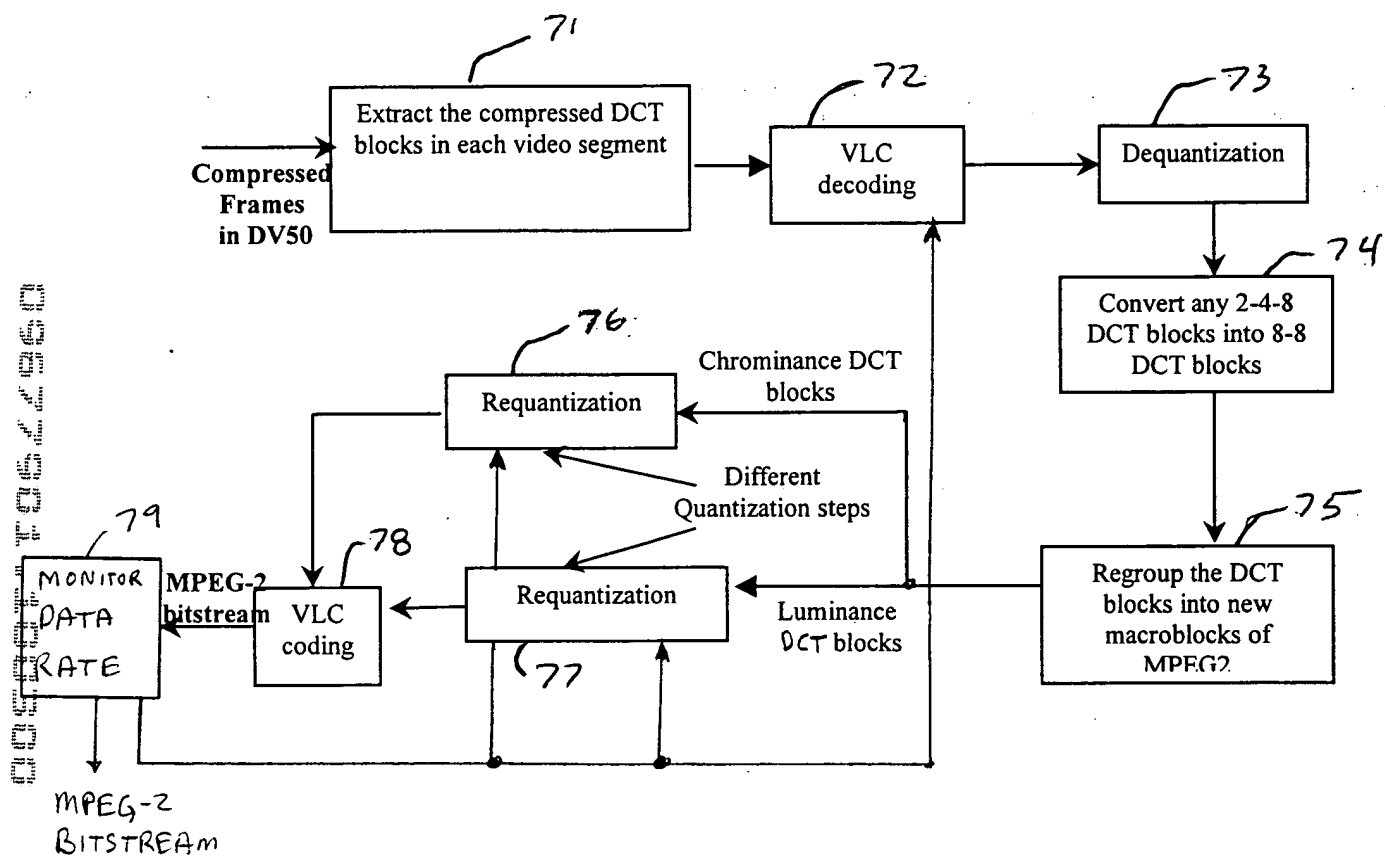


Fig. 6

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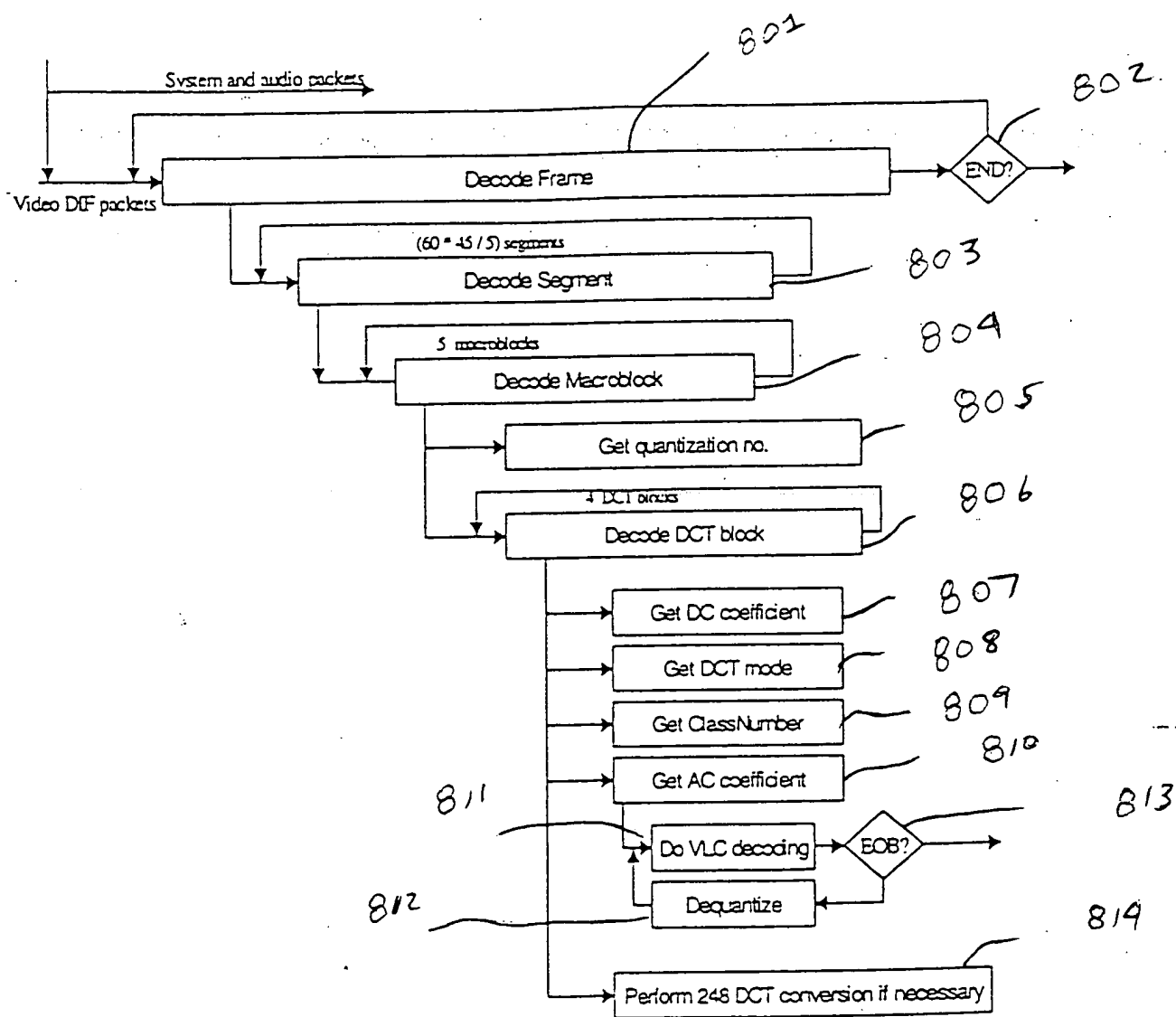


FIG. 8



```
graph TD
    Start(( )) --> 901[Generate MPEG sequence header]
    Start --> 902[Encode Frame]
    901 --> 902
    902 --> 903{END?}
    903 --> End(( ))
    902 --> 904[Rearrange DCT blocks to form MPEG macroblocks]
    902 --> 905[Encode frame coding modes]
    902 --> 906[Encode macroblock]
    906 --> 907[Encode macroblock modes]
    906 --> 908[Encode quantization scale]
    906 --> 909[Encode DCT block]
    909 --> 910[Encode DC coefficients]
    910 --> 911[Do Quantization]
    911 --> 912[Encode AC coefficients]
    912 --> 913{EOB?}
    913 --> 914[Do VLC lookup]
    914 --> 913
```

The flowchart illustrates the MPEG-1 video encoding process. It begins with a start point that branches into two paths: one leading to block 901, 'Generate MPEG sequence header', and another leading to block 902, 'Encode Frame'. Block 901 feeds into block 902. Block 902 leads to a decision diamond 903, 'END?'. If the process is not ended, the flow proceeds to a series of blocks: 904, 'Rearrange DCT blocks to form MPEG macroblocks'; 905, 'Encode frame coding modes'; and 906, 'Encode macroblock'. Block 906 is annotated with '(30 \* 45) macroblocks'. From block 906, the flow continues to 907, 'Encode macroblock modes'; 908, 'Encode quantization scale'; and 909, 'Encode DCT block'. Block 909 is annotated with '8 DCT blocks'. The process then moves through 910, 'Encode DC coefficients'; 911, 'Do Quantization'; and 912, 'Encode AC coefficients'. Block 912 leads to a decision diamond 913, 'EOB?'. If the process is not ended, the flow proceeds to block 914, 'Do VLC lookup', which then loops back to block 913. If the process is ended at either 903 or 913, the flow proceeds to the final end point.

FIG. 9

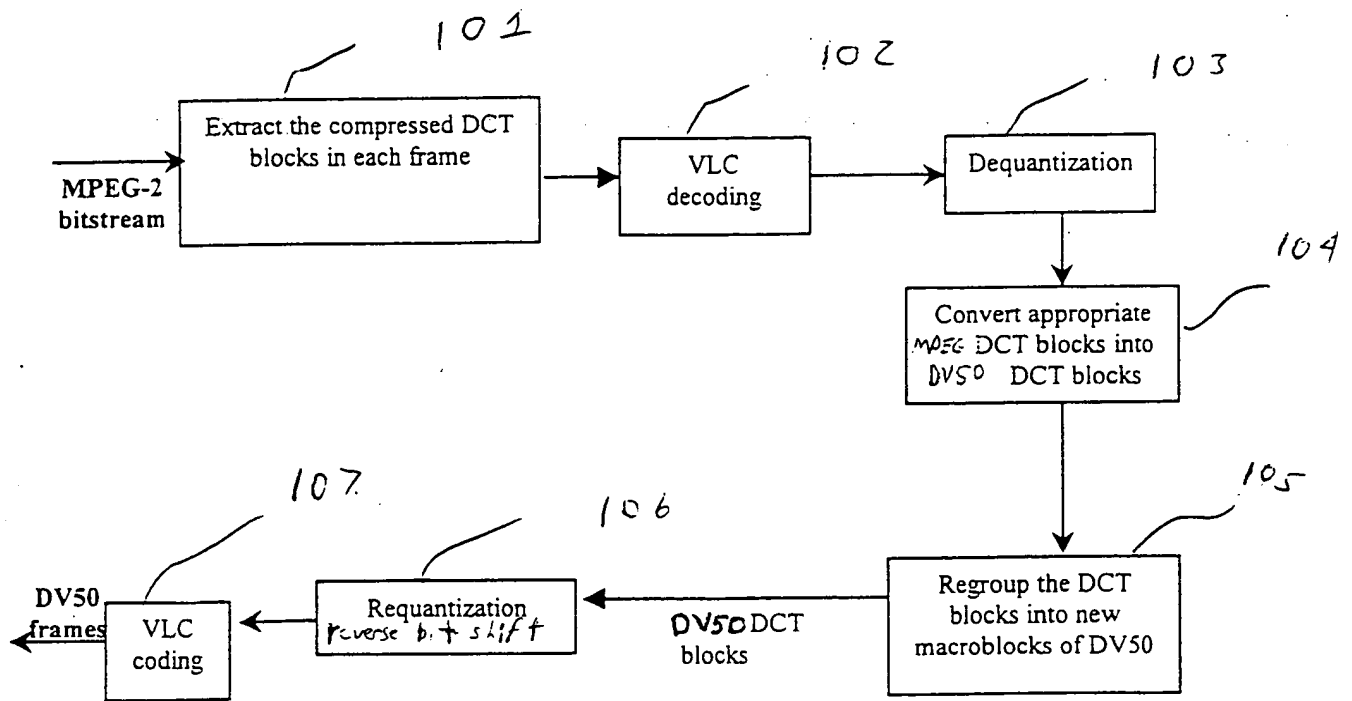


Fig. 10